



Structured Intern Program

**Mechanical Systems Center
NASA - Goddard Space Flight Center**

What is the Structured Intern Program?

The Structured Intern Program (SIP) is a 3-week, unpaid internship for High School and undergraduate students with the Mechanical Engineering Branch of Goddard Space Flight Center (GSFC) in Greenbelt, Maryland. The program is a 120 hour immersion in the world of computer based mechanical engineering. The interns will learn a state-of-the-art Computer Aided Design (CAD) system and build a computer model of a spacecraft component. That model, after being verified, will be added to NASA component libraries for use in conceptual spacecraft designs. This is not a "make work" program for interns, rather it is a hands-on foray into the world of NASA engineering. The interns do real work and the product of their internship is a detailed computer model that is used by NASA engineers.

What will I do as a SIP intern?

The SIP internship is broken down into three distinct sections roughly corresponding to the three weeks. The first week is spent learning how to use the CAD system. During this time you will be required to work through a tutorial for the CAD system and practice building simple models.

The second week you will be given information about a spacecraft component. You will need to do some preliminary research to understand what the component is and how it functions in a spacecraft. You will then map out a method for building a computer model of the item, then you will fire up the CAD workstation and get to work.

The last week centers on documenting your work and cleaning up the part model. This will include creating a web page that documents your work and displays the part you modeled, and finally provide feedback on your time at Goddard.

Am I eligible to be a SIP intern?

Here are the guidelines for applicants to the SIP program, but these are only guidelines and exceptions will be considered:

- You must be a student in the 8th through 12th grade at a public or private school or a home-schooled student, or an undergraduate student in an engineering curriculum.
- You should have an aptitude for, and interest in, computers and/or engineering.
- You will need a letter of recommendation from someone knowledgeable in your skills in math, computers or engineering.
- You must be able to put in a full 8-hour workday during the internship program. Goddard is unable to provide anything to you except fantastic experience and some good memories, everything else is your

- responsibility (i.e. food, lodging, transportation, etc).
- You must be a US citizen.
- Goddard can discontinue any or all SIP internships at any time without warning, explanation or liability and all interns (or guardian's if they are under 18) will be asked to sign a form that spells out all the various legal aspects of the internship.

How do I apply?

- Compose a letter with the following information:
 - Your full name.
 - Your address, phone number and E-mail address (if you have one).
 - Your age and grade.
 - Your citizenship
 - The name, address and phone number of your school and the name of a contact at your school (including E-mail if one exists).
 - What 3 weeks you would like to do your internship (see the SIP web page for available slots: <http://oops.gsfc.nasa.gov/sip>). For simplicity sake, all internships should begin on a Monday and end on a Friday.
 - An alternate 3 weeks you would be available to do your internship (in case your first choice is taken already).
- Get a letter of recommendation from someone knowledgeable in your skills in math, computers or engineering. It should contain:
 - The relationship of the writer to the student.
 - A general description of those skills and aptitudes that are relevant to the internship.
 - A brief description of how the writer has seen those skills demonstrated.
 - Why the writer thinks the student is appropriate for this internship.
 - How we may contact the writer to get clarification or ask further questions.
- Send both of these letters (signed and dated, of course) to:

Drew Jones
SIP Coordinator
Code 543
Goddard Space Flight Center
Greenbelt, MD 20771
- Once your application has been received and reviewed you will be contacted either in writing or by phone to let you know if you were accepted. In some cases, we may want to set up an interview, either by phone or in person, but usually that will not be necessary.
- You will receive in the mail an information packet confirming your internship. There will also be instructions, any preparatory work you need to do, and some paper work that will need to be signed and sent back.
- Still hesitant...why not check out some of our past SIP intern's work at the SIP Web Site: <http://oops.gsfc.nasa.gov/sip/>

Contact Information

SIP Coordinator: Drew Jones
 E-Mail: andrew.jones@gsfc.nasa.gov
 Phone: 301-286-3635
 Web Site: <http://oops.gsfc.nasa.gov/sip>